REQUEST FOR PROPOSALS

Truck Facility Access Design Guidelines

PROBLEM STATEMENT
Truck stops often locate adjacent to Interstate highways. Poorly designed access to these facilities can result in congestion and unsafe operation in the interchange area. The Louisiana Statewide Transportation Plan recommended that access design guidelines be developed for truck stops accessing interstate highways through interchanges.

RESEARCH OBJECTIVES
The research objectives of this study are to**:**
1. Inventory truck stops adjoining interstates in Louisiana, and record current access design and truck stop layouts
2. Identify existing access design standards / guidelines in other states
3. Record good and bad practice in truck facility access design
4. Evaluate current practice and recommend preferred guidelines
5. Document recommended guidelines

SCOPE
The research is restricted to development of design guidelines for access to and from truck facilities adjoining interstate highways in Louisiana and accessed by means of an interchange.

RESEARCH APPROACH

Task 1: Literature and Practice Review
Perform a literature review of current truck facility access design standards / guidelines in the nation. Also establish current practice by communicating with practitioners involved in the design of access facilities to truck stops adjoining interstate highways. Communication can be by formal survey through mail and/or telephone and/or internet, or by informal data gathering by means of e-mail listservs, blogs, wikis or other internet media.

Task 2: Inventory existing truck stops adjoining interstate highways in Louisiana
Identify existing truck stops that access adjoining interstate highways through interchanges in Louisiana and document the access design and truck stop layouts at these locations. The layout and designs must be accurately recorded so that they can be compared to existing design guidelines to be determined in task 3.

Task 3: Identify existing truck facility access design standards / guidelines
From the literature and practice review conducted in task 1, identify existing truck facility access design standards / guidelines. Special attention should be given to agencies that typically offer geometric standards such as the Transportation Research Board, the American Association of State Highway and Transportation Officials, and the Institute of Transportation Engineers.

Task 4: Establish good and bad practice
Using professional judgment and information gathered during tasks 1, 2, and 3, document good and bad practice in truck facility access design. Where possible, identify crash reduction factors associated with moving from bad to good designs. Identify good practices based on traffic volume ranges.

Task 5: Evaluate existing designs in Louisiana
Conduct an evaluation on the alternative designs identified in this study including, but not limited to, assessments of safety, flow, delay, and compliance with access design guidelines identified in task 3.

Task 6: Compile recommended guidelines of truck facility access design
Using the evaluation in task 5, existing guidelines, and recommendations of the Project Review Committee, compile recommended guidelines of truck facility access design for use in Louisiana.

Task 7: Prepare Progress and Final Reports
Progress will be reported to the Project Review Committee (PRC) at the end of each task or at the discretion of the PRC. Progress will be reported in writing but may also be by audio-visual presentation if requested by the PRC. A final report must be submitted to LTRC three months before the end of the project. The research results must be presented in an audio-visual presentation to the PRC before the end of the project

SPECIAL NOTES

A. Task descriptions are intended to provide a framework for conducting the research. LTRC is seeking the insight of proposers on how best to achieve the research objectives. Proposers are expected to describe research plans that can realistically be accomplished within the constraints of available funds and contract time. Proposals must present the candidate's current thinking in sufficient detail to demonstrate their understanding of the problem and the soundness of their approach.

B. The proposal shall include travel to LTRC as necessary to meet with the Project Review Committee and statewide for conduct of the research. Out of state travel for the conduct of the research shall be identified in the proposal. Funding shall not be included for travel to conferences for presentation of results. Principal Investigators may request support for conference travel funding outside the project budget.

C. LTRC projects are intended to produce results that will be applied in practice. It is to be expected that an implementation plan for moving the results of the research into practice will evolve as a concerted effort during this project. The final report must contain an implementation plan to include as a minimum, the following:
   a. The "product" expected from the research;
   b. A realistic assessment of impediments to successful implementation;
   c. The activities necessary for successful implementation;
   d. The criteria for judging the progress and consequences of implementation.

D. To assist in the implementation process, the investigators of this research shall be prepared to present the final results to LaDOTD officials in an oral presentation to be held in Baton Rouge LaDOTD Headquarters after acceptance of the final report.

CONTRACT TIME
24 months

COST
$100,000

AUTHORIZATION TO BEGIN WORK
January 2011 (estimated)

PROPOSAL FORMAT
All proposals must be formatted according to LTRC Research Manual, 2003 edition (http://www.ltrc.lsu.edu/pdf/research_man03.pdf).

PROPOSAL SELECTION
The Project Review Committee selected for this project will review, evaluate and rank all proposals received according to the criteria listed in the proposal review form shown in figure 2-6 in the LTRC Research Manual

DEADLINE FOR RECEIPT OF PROPOSAL

Ten (10) copies of the proposal must be received by LTRC by the close of business on **October 29, 2010, 4.30 p.m.**

SUBMISSION OF PROPOSAL

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LTRC GUIDE TO PROPOSAL DEVELOPMENT

PROPOSAL FORM AND CONTENT

This section provides the basic requirements for the form, sequence and content of the research proposal. The proposal is of paramount importance to both the researches and LTRC because upon approval of a research project, the proposal comprises the major portion of the contract document. The proposal shall contain, but is not limited to, the following essential elements.

A. **PART I – IDENTIFICATION –** The title sheet, which includes the amount of funding requested; duration of project in months with beginning and ending dates indicated; a concise descriptive title for the proposed study; the name and business address of the organization which will conduct the work; the major subdivision of that organization responsible for the research; the name, title, mailing address and telephone number of the principal investigator who is to bear the responsibility for the successful performance of the proposed work; and the name and title of the co-principal investigators, if applicable.

B. PART II – APPROVAL - for LTRC use only in the process of modification and /or approval of the proposal.

C. PART III – AMOUNTS REQUESTED FOR PROJECT – The part of the proposal requires an itemized list of the funds requested for the proposed research by type of expense and fiscal year (July 1 through June 30.)

1. **PERSONNEL** – List the names, position and percentage of time (based on a 40-hour work week) to be spent on the project for all persons involved in the research, including principal investigators (PI), co-principal investigator (CoPI), and graduate students, if applicable. When the percent time spent on the project varies with a given period (e.g., spring, fall, summer) the individuals periods and appropriate percent time shall be listed separately for each. The amounts requested for each person listed must not exceed the proportion of total salary computed from the percent time spent of the project listed for that person. The salaries used as the basis for computing individual personnel costs shall be exclusive of the cost of employee benefits; however, that percentage used by the contracting agency to compute employee benefits shall be shown where indicated on the form and the costs computed and included in totals.
2. **NON-EXPENDABLE EQUIPMENT** – Itemize non-expendable equipment, software or database which are to be purchased specifically for the performance of the study. Non-expendable equipment includes any item having a useful life of more than one year and an acquisition cost of more than $300 per unit.
3. **CONSUMABLE SUPPLIES** – This item includes the estimated cost of all expendable equipment, materials and supplies. Any item for which the cost exceeds $300.00 must be listed individually.
4. **TRAVEL** – Itemize expenses for trips to be made in connection with the research project and state the purpose of the trip. Expenses incurred for out-of-date travel should be listed separately from those for in-state travel.

When travel expenses are requested for conferences, conventions and seminars in connection with the research, each instance must be separately identified and justified in terms of the work to be performed.

5. **OTHER EXPENSES** – Itemize all miscellaneous expenses associated with the project, such as those required for reference materials, copying, computer time, photography, equipment maintenance, telephone usage, etc. All costs to be incurred for equipment rental or use of subcontractors/consultants associated with the project should be listed in this section.
6. **TOTAL DIRECT COSTS** – The summation of total estimated costs for items (1) through (5).
7. **TOTAL INDIRECT COSTS** – This item is intended to provide reimbursement for general and research administration and overhead expenses incurred by the contraction agency in the prosecution of the research project for which no charge is made elsewhere in the study. The total indirect costs shall not exceed 25 percent of the total direct costs, excluding employee benefits. The actual percentage used and method of application shall be described in Part VIII of the proposal and shall be verifiable through audits by the Department, the FHWA or their representatives.
8. **TOTAL COSTS** – The summation of the total estimated costs for items (1) through (7).

D. PART IV – BIOGRAPHICAL SKETCHES – Provide brief sketches for the professional personnel who are indicated by Part III, Section (1) to be actively engaged in the study.

E. PART V – TITLE VI STATEMENT – This portion of the proposal shall include a statement that the agency or contractor will comply with the provisions contained in Title VI of the Civil Rights Act of 1964.

F. PART VI – PROBLEM STATEMENT - A brief statement of the problem to be solved through research.

G. PART VII – OBJECTIVES OF RESEARCH – A clear, concise and comprehensive itemization of the goals which are anticipated to be obtained through the proposed research.

H. PART VIII – SCOPE – A clear, concise and descriptive statement relating the degree to which the problem is to be addressed and the extent and range of the proposed research.

I. PART IX – RESEARCH WORK PLAN – The work plan is the basic guide to the study which contains the detailed description of the approach that the principal investigator intends to employ to complete the study and implement the results. It shall contain the following elements in the sequence indicated:

1. **METHOD OF PROCEDURE** – This section should describe the details of the researcher's approach to solving the problem:
   - **(a) APPROACH** – For each phase of the proposed research, discuss the tasks that are necessary in order to fulfill the specific aims given in (G) above. The discussion should include principles or theories to be used; devices, processes, materials or systems to be

developed; possible solutions to the problems; critical experiments to test the applicability of the theory, the type and range of variables to be tested or considered; and the methods of data analysis to be used including statistical methods. The preparation of the final report should be acknowledged.

(b) **WORK SCHEDULE** – A time chart in the format shown in Figure 2-7 shall indicate the proposed time schedule for completion of each of the tasks (and subtasks when applicable) discussed in part (a). This should include preparation of progress, interim (if applicable) and final reports.

(c) **DELIVERABLES** – An itemized listing of all project deliverables and the associated completion date(s) for submission of each. Include in this listing all draft and final reports, software, manuals, specifications, programs and systems etc.

2. **STAFFING PLAN** – The responsibilities and time allocation of personnel to the required tasks should be briefly stated for each fiscal year for the duration of the project.
3. **FACILITIES AVAILABLE** – The general facilities at the disposal of the proposing agency which are relevant to the study should be described, along with major items of permanent equipment to be used.
4. **SIGNIFICANCE OF RESEARCH** – The importance of the proposed work should be explained in this section. The findings of the literature survey detailed in Part X should be discussed, and it should be demonstrated that previous work has not attempted to solve the problem using the same approach, or that the proposed study will extend, modify or refine the work of others. This section should support the researcher's approach and state why he believes it is the best.
5. **IMPLEMENTATION** – An assessment by the researcher of the areas of potential application of the anticipated research findings. The form in which the findings might be reported (mathematical model or formula, test procedure, specification, design procedure, etc.) should be described. The specific area of practice that would be changed by the findings and those organizations or groups that might benefit from the new technology should be identified. The responsibility for and means of technology transfer relative to the study should be proposed when possible.

J. PART X – SUPPORTING DATA – This section includes information required to support the research work program proposed in Part VII.

1. **PREVIOUS WORK BY RESEARCHERS** – The researchers should list and describe briefly any previous work they have done to date that is pertinent to the proposed study. Personal publications on the subject area or closely related work should be cited. (List no more than five.)
2. **RESULTS OBTAINED BY OTHERS** – Describe the results of a literature research for information relative to the findings of others which are pertinent to the proposed study. The findings available through HRIS are required for all Type A studies.

3. **AMOUNTS REQUESTED** – Provide justification for the itemized amounts shown in Part III for nonexpendable equipment, equipment rental, travel and other items. It is required that the manner in which indirect costs are calculated and applied be stated.

K. PART XI – LIST OF REFERENCES – A numerical list of references used in the text of the proposal should be included, in the order referred to in the text.